Y

☐ [Generate Collection] [Print]

L10: Entry 2 of 3   File: USPT   Jul 7, 1998

US-PAT-NO: 5778367
DOCUMENT-IDENTIFIER: US 5778367 A

TITLE: Automated on-line information service and directory, particularly for the world wide web

DATE-ISSUED: July 7, 1998

INVENTOR-INFORMATION:
NAME	CITY	STATE	ZIP CODE	COUNTRY
Wesinger, Jr.; Ralph E.	San Jose	CA		
Coley; Christopher D.	Morgan Hill	CA		

ASSIGNEE-INFORMATION:
NAME	CITY	STATE	ZIP CODE	COUNTRY	TYPE CODE
Network Engineering Software, Inc.	San Jose	CA			02

APPL-NO: 08/ 572543   [PALM]
DATE FILED: December 14, 1995

INT-CL: [06] G06 F 17/30

US-CL-ISSUED: 707/10; 395/200.48, 395/200.47, 395/200.34, 395/200.33
US-CL-CURRENT: 707/10; 709/203, 709/204, 709/217, 709/218

FIELD-OF-SEARCH: 395/610, 395/187.01, 395/182.02, 395/793, 395/200.48, 395/200.47, 395/200.33, 395/200.34, 707/10

PRIOR-ART-DISCLOSED:

U.S. PATENT DOCUMENTS

[Search Selected]   [Search ALL]   [Clear]

	PAT-NO	ISSUE-DATE	PATENTEE-NAME	US-CL
☐	5448724	September 1995	Hayashi	395/182.02
☐	5530852	June 1996	Meske, Jr. et al.	707/10
☐	5553239	September 1996	Heath et al.	395/187.01
☐	5572643	November 1996	Judson	395/793
☐	5608903	March 1997	Prasad et al.	395/610
☐	5623601	April 1997	Vu	395/187.01
	5623652	April 1997	Vora et al.	707/10

h   e b   b g ee e f   c   e   f   e ge

◻

◻ <u>5625781</u>   April 1997   Cline et al.   395/33

◻ <u>5630125</u>   May 1997   Zellweger   707/103

◻ <u>5678041</u>   October 1997   Baker et al.   707/9

FOREIGN PATENT DOCUMENTS

FOREIGN-PAT-NO	PUBN-DATE	COUNTRY	US-CL
WO 95/12176	May 1995	WO	
WO 95/17733	June 1995	WO	

OTHER PUBLICATIONS

Cinkosky et al, A new design for the genome sequence database, IEEE, pp. 725-729, Nov. 1995.
James, Media and Hypermedia, IEEE, pp. 1-2, Jun. 1990.
Born, A knowledge based Hypertext system for document generation and checking, IEEE, pp. 1-4, Nov. 1990.
Rosenking et al, A generic system for directory pagination, IEEE, pp. 166-169, Sep. 1991.
Story et al, The right pages image-based electronic library for alerting and browsing, IEEE, pp. 17-26, Sep. 1992.
Barclay et al, Vitual Blood, Real Sweat, no tears: lessons learned from making a publication about electronic publications, IEEE, pp. 106-109, Sep. 1995.
Laura Lemay, <u>Web</u> Publishing with HTML, text book, pp. 272-289, 1995.
<u>Web</u> site pages from wyp.net (World Yellow Pages NETwork.TM..).

ART-UNIT: 271

PRIMARY-EXAMINER: Lintz; Paul R.

ASSISTANT-EXAMINER: Coby; Frantz

ATTY-AGENT-FIRM: McDonnell Boehnen Hulbert & Berghoff

ABSTRACT:

A computer network and a database are used to provide a hardware-independent, dynamic information system in which the information content is entirely user-controlled. Requests are received from individual users of the computer network to electronically publish information, and input is accepted from the individual users. Entries from the users containing the information to be electronically published are automatically collected, classified and stored in the database in searchable and retrievable form. Entries are made freely accessible on the computer network. In response to user requests, the database is searched and entries are retrieved. Entries are served to users in a hardware-independent page description language. The entries are password protected, allowing users to retrieve and update entries by supplying a correct password. Preferably, the process is entirely automated with any necessary billing being performed by secure, on-line credit card processing. The user making a database entry has complete control of that entry both at the time the entry is made and in the future after the entry has been made. The entry, when served to a client, is transformed on-the-fly to the page description language. Where the page description language is HTML and the computer network is the World Wide <u>Web,</u> the entry may function as a "mini" homepage for the

h   e b   b g ee e f   c   e f   e ge

user that made the entry. Provision is made for graphics and other kinds of content besides text, taking advantage of the content-rich nature of the Web.

25 Claims, 25 Drawing figures

h   e b   b g e e e f c   e f   e ge

☐   Generate Collection | Print |

L10: Entry 2 of 3   File: USPT   Jul 7, 1998

DOCUMENT-IDENTIFIER: US 5778367 A
TITLE: Automated on-line information service and directory, particularly for the
world wide web

Abstract Text (1):
A computer network and a database are used to provide a hardware-independent,
dynamic information system in which the information content is entirely user-
controlled. Requests are received from individual users of the computer network to
electronically publish information, and input is accepted from the individual
users. Entries from the users containing the information to be electronically
published are automatically collected, classified and stored in the database in
searchable and retrievable form. Entries are made freely accessible on the computer
network. In response to user requests, the database is searched and entries are
retrieved. Entries are served to users in a hardware-independent page description
language. The entries are password protected, allowing users to retrieve and update
entries by supplying a correct password. Preferably, the process is entirely
automated with any necessary billing being performed by secure, on-line credit card
processing. The user making a database entry has complete control of that entry
both at the time the entry is made and in the future after the entry has been made.
The entry, when served to a client, is transformed on-the-fly to the page
description language. Where the page description language is HTML and the computer
network is the World Wide Web, the entry may function as a "mini" homepage for the
user that made the entry. Provision is made for graphics and other kinds of content
besides text, taking advantage of the content-rich nature of the Web.

Application Filing Date (1):
19951214

DATE ISSUED (1):
19980707

Brief Summary Text (3):
The present invention relates to on-line services, particularly to services for the
World Wide Web.

Brief Summary Text (5):
The Internet, and in particular the content-rich World Wide Web ("the Web"), have
experienced and continue to experience explosive growth. The Web is an Internet
service that organizes information using hypermedia. Each document can contain
embedded reference to images, audio, or other documents. A user browses for
information by following references. Web documents are specified in HyperText
Markup Language (HTML), a computer language used to specify the contents and format
of a hypermedia document (e.g., a homepage). HyperText Transfer Protocol (HTTP) is
the protocol used to access a Web document.

Brief Summary Text (6):
Part of the beauty of the Web is that it allows for the definition of device-,
system-, and application-independent electronic content. The details of how to
display or play back that content on a particular machine within a particular
software environment are left to individual web browsers. The content itself,

h   e b   b g ee e f· c   e f   e ge

however, need only be specified once. In some sense, then, the <u>Web</u> offers the ultimate in cross-platform capability.

<u>Brief Summary Text</u> (7):
Pre-existing collections of information, however, such as databases of various kinds, can rarely be placed directly on the <u>Web</u>. Rather, gateway programs are used to provide access to a wide variety of information and services that would otherwise be inaccessible to <u>Web</u> clients and servers. The Common Gateway Interface (CGI) specification has emerged as a standard way to extend the services and capabilities of a <u>Web</u> server having a defined core functionality. CGI "scripts" are used for this purpose. CGI provides an Application Program Interface, supported by CGI-capable <u>Web</u> servers, to which programmers can write to extend the functionality of the server. CGI scripts in large part produce from non-HTTP objects HTTP objects that a <u>Web</u> client can render, and also produce from HTTP objects non-HTTP input to be passed on to another program or a separate server, e.g., a conventional database server. More information concerning the CGI specification may be accessed using the following Universal Resource Locator (URL):
http://hoohoo.ncsa.uiuc.edu/cgi/interfac.html

<u>Brief Summary Text</u> (8):
With the explosive growth of the <u>Web</u>, fueled in part by the extensibility provided by CGI scripts, the need for "finding aids" for the <u>Web</u>, i.e., tools to allow one to find information concerning a topic of interest, has grown acute. Many hardcopy volumes are presently available that are represented to be "White Pages" or "Yellow Pages" for the <u>Web</u>. Of course, hard copy information becomes rapidly out of date, and in the case of the <u>Web</u>, is out of date before it is even printed (let alone distributed), in the sense of failing to list many interesting resources newly made available on the <u>Web</u>.

<u>Brief Summary Text</u> (9):
The only effective solution is to have such finding aids be on-line, available on the <u>Web</u> itself. One such finding aid is a class of software tools called search engines. Search engines rely on automated <u>Web</u>-traversing programs called robots or spiders that follow link after link around the <u>Web</u>, cataloging documents and storing the information for transmission to a parent database, where the information is sifted, categorized, and stored. When a search engine is run, the database compiled through the efforts of the robots and spiders is searched using a database management system. Using keywords or search terms provided by the user, the database locates matches and possibly near-mateches as well.

<u>Brief Summary Text</u> (10):
An example of one such search engine is known as Yahoo, offered by Yahoo! Corporation of Mountain View, Calif., and may be accessed at the URL http://www.yahoo.com. Persons having pages on the <u>Web</u>, rather than simply waiting to have their <u>Web</u> page be found by a robot or spider, can also have their <u>Web</u> page listed in the Yahoo database by providing information concerning the resource they wish to list and paying a fee. The result is an on-line-searchable directory of <u>Web</u> resources that is regularly updated.

<u>Brief Summary Text</u> (11):
While such services are indeed extremely useful, nevertheless, from the standpoint of a person wishing to publicize their <u>Web</u> site, they are typically attended by a number of drawbacks. In particular, the person wishing to publicize their <u>Web</u> site typically has very limited control of the content of the resulting listing. Submissions, including textual description and suggested categories, are often subjected to editorial control that may range from strict to arbitrary. As a result, a listing may be placed under an entirely different category from the category intended by the person making the submission. Furthermore, the textual description may be heavily edited (in some instances almost beyond recognition)--or even deleted--depending on the exaction of the editor. Because of this editorial

h   e b   b g e e e f   c   e f   e ge

process, posting of the listing is not immediate. Furthermore, once the listing has been posted to the database, if the person making the listing later wishes to change the listing in some respect, the change must again pass through the same laborious channel. Hence, the process of adding and updating listings is inconvenient and unsatisfactory.

Brief Summary Text (13):
To use the foregoing service, one is required have a Web homepage. If a user has no Web presence but wishes to establish one, the foregoing service is entirely unavailable. The typical user must first establish a Web presence by paying a Web consultant to produce a homepage and then paying an Internet Service Provider to house that homepage on the Web. This undertaking can prove to be quite costly for an individual or a small business.

Brief Summary Text (17):
Preferably, the process is entirely automated with any necessary billing being performed by secure, on-line credit card processing. The user making a database entry has complete control of that entry both at the time the entry is made at any time thereafter. The entry, when served to a client, is transformed on-the-fly to the page description language. Where the page description language is HTML and the computer network is the World Wide Web, the entry may function as a "mini" homepage for the user that made the entry. Provision is made for graphics and other kinds of content besides text, taking advantage of the content-rich nature of the Web.

Brief Summary Text (18):
Because the user controls both the content of an entry and the manner in which it is classified, the database functions as a directory to allow the Web public to quickly and precisely find current and accurate data about the user, the user's products and services, etc., without requiring the user to have a conventional Web homepage. The user's mini homepage can be included in many different categories, with the user having the flexibility to change the categories or the descriptive content of the page at any time. Preferably, hyperlink services are also provided, by including within the page links to an E-mail address or to one or more other conventional homepages (or other mini homepages). The E-mail address may be a private E-mail address established on the host machine, avoiding the need to obtain a conventional E-mail address. An inexpensive way is therefore provided to set up a Web site with key information that might otherwise be very costly to widely distribute, and to achieve an Internet presence with a minimum of effort and expense.

Detailed Description Text (2):
Referring to FIG. 1A, there is shown a simplified block diagram of the system of the present invention. A server site 101 is connected to the a computer network 103 such as the Web or a Wide Area Network (WAN) other than the Web. At the server site, server software runs on a suitable server platform. In the case of the Web, for example, the server of FIG. 1A might be a server available from the National Center for Supercomputing Applications (NCSA), or a secure server package of a known, commercially-available type, running on a super-minicomputer such as a SunServer machine available from Sun Microsystems of Menlo Park, Calif., or on any of a wide variety of suitable UNIX platforms. Also running, either on the same machine or a network-accessible machine, is a database management system 107. Preferably, the database management system 107 supports Standard Query Language, or SQL. One suitable database management system is MiniSQL, which is also commercially available.

Detailed Description Text (3):
SQL databases, however, are not inherently "Web-friendly." Accordingly, a variety of HTML front-ending tools 109 are provided which run as extensions to the server software, allowing computer network users to each add entries to a database, search entries in the database, and update entries by that particular user, all using the

h   e b   b g ee f c   e f   e ge

Web (or a Web-like) graphical user interface. The server software and the HTML
front-ending tools communicate through the Common Gateway Interface 111. In
accordance with another embodiment, shown in FIG. 1B, the HTML front-ending tools
may be fully integrated with the server software. The HTML front-ending tools and
the database communicate through SQL (113).

Detailed Description Text (7):
When the icon 201 is selected, the user is presented with a page like that shown in
FIG. 2B, 2C, and 2D. At the top of the page appears a table 209 presenting examples
of valid entry types for Whois, i.e., Domain Name, Machine Name, Registered Handle,
Registered Name, IP Address and IP Network. Next appears a text input field 211 to
receive the information to be looked up. Next appears an example of the results of
a specific lookup. The user has input his or her request, and results have been
received back and displayed in a results area 213. As described more fully below,
links are embedded in the results such that, by clicking on an area 215 displaying
ccoley@SRMC.COM, for example, an E-mail utility will be invoked showing a blank E-
mail addressed to ccoley@SRMC.COM. Similarly, domain names, IP addresses, etc. may
be clicked on, with the result that Whois is queried once again with respect to the
selected information.

Detailed Description Text (21):
The user is first presented with a page 301 (index.shtml) allowing the user to
select from different services, including whois and traceroute. As described
previously, whois is an Internet service that looks up information about a user in
a database. Traceroute is a program that permits a user to find the path a packet
will take as it crosses the Internet to a specific destination. Whois and
traceroute are known services. Previously, however, use of these services has
typically required "root-user access" on a UNIX host. In accordance with one aspect
of the present invention, these services are HTML front-ended and made available to
all users, together with further hyperlink services that greatly increase the
utility of the underlying whois and traceroute services.

Detailed Description Text (24):
Whois and traceroute, as implemented as part of the present invention, provide
powerful new tools for serious Internet tools. Using whois, the user may type in
any address with a ".com" , ".edu" or ".net" extension and find the physical
address, phone number and the individual(s) that the address represents. This
ability may be used as a powerful marketing tool to find a wealth of information
about people on the Internet. Also, whois can be used to instantly check a domain
name.

Detailed Description Text (26):
Whereas whois and traceroute are more technically oriented, "WebBook" allows non-
technical users to take advantage of the capabilities of the Web with a minimum of
effort. WebBook allows a user to have HTML-front-ended access to a database of mini
homepages in order to search, add entries to, or update previous entries in the
database.

Detailed Description Text (27):
Referring again to FIG. 3, if WebBook is chosen, a login routine 303 may request
the to enter identifying information of the type that would normally be found on a
business card, for example. Presently, although Web sites are able to track the
user's access point to the Web (for example, a particular slip connection through
an Internet Service Provider), this information often gives no indication who the
user really is. Such information is important in order to evaluate the extent to
which a target audience is being reached.

Detailed Description Text (34):
While some sites may provide information and services free of charge, for example
as a result of volunteerism or advertising subsidies, other sites may have a

h   e b   b g e e e f   c   e   f   e ge

business model in which users are charged for information or services or both. For such a site, it becomes critical to protect the information stored in the database. Therefore, unlike some existing databases in which actual hypermedia links to Web homepages are stored in the listed items, in order to prevent effectual pirating of the database, links are embedded only in the full entry itself, not in the entry listings. Otherwise a user could simply store a voluminous listing or various different listings, with their accompanying hypermedia links, and thereby capture in large part the entire benefit of the database. Instead, an item in a listing is intended only to give the user enough information to gauge the user's further interest in an item. If the user is interested in an item, the user may select that item, causing the full-page entry to be provided. The full page entry includes links to any E-mail address or URL that the owner of the entry may have provided, thereby providing a link to that person's or organization's homepage (or to some other homepage).

Detailed Description Text (36):
The full page entry 313 need not be limited to text alone but may be a complete hypermedia page, including possible graphics or other non-textual content. In this manner, for person's or organizations not having any independent Web homepage, the entry can function as a "mini-homepage," i.e., a single page hypermedia document. Furthermore, the mini-homepage may have its own URL, allowing it to be accessed directly without performing a search of the database. For example, a URL for a mini homepage might be http://webwho.com/view?id=xxxx, where xxxx represents a transaction ID assigned to each entry in a manner described below.

Detailed Description Text (47):
When a user visits the site and the WebWho option is selected, a page WebWho.html (401) is served to the user, offering the user various options, including, for example, options to search the database, add a new entry, update an existing entry, change the user's password, or to log in if the user has not previously done so. In an exemplary embodiment, the routines illustrated in FIG. 4 are standard C routines, called from a single CGI script. In other embodiments, the routines may be called by separate scripts, and may be written other languages such as in a UNIX shell language, or in one of a number of emerging Internet computer languages such as Java.

Other Reference Publication (7):
Laura Lemay, Web Publishing with HTML, text book, pp. 272-289, 1995.

Other Reference Publication (8):
Web site pages from wyp.net (World Yellow Pages NETwork.TM..).

CLAIMS:

7. The method of claim 3, wherein said computer network is the World Wide Web.

12. The method of claim 8, wherein at least some of said database entries further includes a Universal Resource Locator providing a link to separate document available on the World Wide Web.

18. A method using a server computer to allow computer network users to look up information about an Internet user or Internet machine, the method comprising the steps of:

serving to users an information page structured in accordance with a page description language;

in response to a request from a user, invoking code for interfacing between server software running on the server computer and an access-privileged service running on the server computer or on a computer accessible through the server computer;

h   e b   b g e e e f   c   e   f   e   ge

passing information concerning said request from the code for interfacing to the access-privileged service, and running the access-privileged service; and

the code for interfacing receiving results from the access-privileged service and serving to said user an information page structured in accordance with said page description language and containing said results.

h   e b   b g e e e f   c   e   f   e   ge

☐ ▨▨▨ Generate Collection ▨▨▨ | Print |

L10: Entry 1 of 3   File: USPT   Nov 24, 1998

DOCUMENT-IDENTIFIER: US 5842178 A
TITLE: Computerized quotation system and method

Application Filing Date (1):
19980130

DATE ISSUED (1):
19981124

Brief Summary Text (10):
The present invention is a computerized system forming a computer based
communications network for processing requests for quotation for goods and/or
services by broadcasting such requests to network members of the computerized
system over any conventional transmitting medium, such as the Internet, to which
the computerized system may be connected. No central database of goods, prices,
etc. is involved. Instead, buyers formulate requests for quotation and transmit
them to the computerized network which broadcasts the request for quotation of one
or more specified standard products to prospective sellers based on filter
conditions set by the buyer and/or the seller and/or the network operator. The
filter compatible sellers' responses are communicated to the prospective buyer
either over the communications network or via other acceptable communications
means. Their responses are processed by the quotation system and submitted to the
requesting buyer.

Drawing Description Text (3):
FIG. 1. shows a network diagram of the computerized system of the present invention
where the Internet is the communications network;

Drawing Description Text (4):
FIG. 2. shows a block diagram representing how a buyer interacts with the
compterized system of this invention via the Internet;

Detailed Description Text (2):
The present invention is a computerized quotation system forming a computer based
communications network for processing requests for quotation for goods and services
from respective buyers or vendors who broadcast such requests to network members of
the computerized system. There is no central pricing database to limit the number
of buyers and vendors of goods and services or to limit the number of goods and
services which can be processed. However the goods and services must be standard
items to ensure that there is no confusion as to what buyers are requesting and
what sellers are offering to buyers. FIG. 1 shows the system of this invention as
configured using the Internet as the communications network.

Detailed Description Text (3):
A network member is anyone or any company which has registered as a user by
completing an application and can be a buyer and/or a vendor in using the services
provided by the computerized system of the present invention. The programming (e.g.
Internet HTML pages or quotation system provided software) which enables network
members to interact with the network would include information sufficient for
network members to identify standard goods or services that they wish to identify

h   e b   b g ee e f   c   e   f   e ge

in a request for quotation. Standardization of product or service descriptions is essential to avoid confusion unless a more text oriented specification is appropriate to the product or service type. To this end preprogrammed menu information is provided to classify product and services in catagories broken down by functional class and subclass corresponding to the products as they are commercially known and identified. Such menus are readily upgraded to include new and revised commercially available products and services from the manufactures or suppliers of such products and services. Buyers would use this information to prepare requests for quotation which will then be clearly understood by vendors. This product and other information and programming or software could be made available to network members either by direct electronic transfer to the user's personal computer or by providing information, software, or data on computer disks, compact disks, or other appropriate means. Providing standardized information to network users is necessary to correlate product and service identifications for buyers and vendors among other system maintenance functions. FIG. 4 shows how information would flow in an Internet embodiment of this invention. The quotation system central office would maintain its Internet site HTML pages and other necessary items by communication with its HTML World Wide Web server. It would download from the Web site requests for membership as well as requests for quotation. The Central Office would process RFQs through appropriate software and would wait for vendors to contact the Central Office FTP site. Vendors would use quotation system supplied software to cross reference their inventory to link with product lists used by the quotation system. When contacted the Central Office would acquire via suitable vendor software the RFQ information required and available from the vendors product database. If the vendor has prepared information relating to special sales, this information would be transferred to the Central Office at this time. Software version and list upgrades would be performed as well. When the FTP transfers are complet, the Central Office would prepare RFQ e-mail for requesting buyers and forward same as required.

Detailed Description Text (4):
New vendors may apply for membership using the quotation system's World Wide Web application form or by contacting quotation system offices by other means. Buyer members would access the quotation system's World Wide Web site and apply for membership or request price quotations or other available information, such as a trade publication search engine or statistical charts of price versus time by product, provided through the quotation system's Web site. New members would receive password information via e-mail to ensure that applicants have provided correct e-mail coordinates.

Detailed Description Text (5):
The invention can be understood readily from the following description of the preferred embodiment in conjuntion with the flow diagram of FIG. 2 in which communication between buyers, sellers and the network computer(s) is completed using the Internet. A World wide Web home page is set up to provide access to the network by Internet members. A potential user accesses the Internet using any standard Web browser and becomes a quotation network user by completing a registration application providing necessary data about itself. Once registered, a member can access the forms necessary for preparing a request for quotation ("RFQ"), which will be described in greater detail hereafter. The RFQ is subsequently downloaded to a quotation system central office computer through a file transfer protocol (FTP) connection to the Internet Web server.

Detailed Description Text (7):
Once vendors are selected to receive RFQs, the RFQ information may be transmitted to them via FTP over the Internet, however, a preferred way would be to provide vendors with software which permits them to schedule when they wish to communicate with the quotation system. In this case, the vendor software would contact the quotation system over the Internet via FTP; the quotation system would interrigate the vendor's product database (using suitable software which links or cross

h   e b   b g e e e f   c   e   f   e ge

references the vendor's inventory to the quotation system product and services lists) and retrieve pricing and other information necessary to respond to the RFQ; and thereafter prepare e-mail to be sent to the requesting buyer member. FIG. 8 shows one possible arrangement of RFQ data which would be e-mailed to a buyer. In this example a request for quotation is sent for 5,000 OH006-2000656 type J resistors manufactured by Ohmite for delivery by Aug. 1, 1993. The buyer indicates that the delivery date is firm. Other information such as RFQ date, tracking number and product code are shown. In this case the sender has specified that this request for quotation be routed to vendors in the state of New Jersey USA only. The lower portion of FIG. 6. shows a response from for example Acme Supply, Inc. together with pricing, contact information, delivery and vendor notes indicating that the request can be "Shipped 1000 per box from inventory, subject to prior sale." The e-mail could be configured as HTML pages and read as HTML by the buyer's browser directly or via application helper software provided by the quotation system. One advantage to providing buyers with HTML type e-mail quotations is that hypertext links can be embedded in the quotation along with data about the quotation which would premit the buyer to select a response option directly from the quotation HTML page. The option may be to request that an e-mail purchase order be sent to a vendor and that the buyer's credit information, e.g. on file with the quotation system, be used to effectuate automatically a credit purchase of the quoted product. Other alternatives include providing quotations to buyers via FTP or through interaction with the quotation system World Wide Web Internet site. As an alternative, communications between buyers and sellers may be by telephone, e-mail or other means.

Detailed Description Text (9):
Although the above example uses the Internet as the communications network between buyers, sellers and the quotation system computer, other computer communications arrangements can be used as well. Also, although the quotation computer system may execute all functions using one node on a communications network, it is equally suitable to have multiple nodes at many sites to service all network users. FIG. 1 shows two such quotation system central computers. In this event, all nodes would intercommunicate as required to complete routing of user information and other functions.

h   e b   b g ee ef   c   e   f   e ge